

Illinois Power Company  
500 South 27th Street  
Decatur, IL 62521-2200



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**ILLINOIS POWER**

Part of the DYNEGY Performance Team

January 26, 2001

Rosemarie Cazeau, Chief  
Environmental Bureau  
Office of the Attorney General, State of Illinois  
188 W. Randolph St., 20<sup>th</sup> Floor  
Chicago, IL 60601

**RE: Illinois Power Company Mercury Control Program**

Dear Ms. Cazeau:

I am enclosing a copy of the 1/26/01 revision of the Illinois Power Company ("IP") Mercury Control Program for your consideration. I am also enclosing a redlined version of this document reflecting the changes from the prior version.

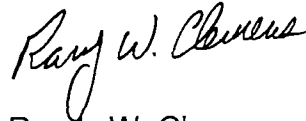
As suggested in your letter dated December 21, 2000, IP has reviewed the cleanup levels announced by the Agency for Toxic Substances and Disease Registry, and has modified the cleanup levels contained in its revised Mercury Control Program accordingly. The revised Mercury Control Program also reflects minor changes resulting from discussions with U.S. Environmental Protection Agency, Region V.

IP is unable to review the mercury handling procedures referred to in your prior letter because it is not a member of the American Gas Association ("AGA"). We have determined that the procedures appear on a members-only portion of AGA's webpage. However, in our most recent conversation you informed me that members of the Attorney General Mercury Task Force have reviewed the mercury handling procedures in IP's Mercury Control Program, and have found them to be acceptable.

As we informed the Task Force last September, IP undertook a comprehensive visual examination of all of its customer locations at that time to identify mercury-containing equipment. As a result of a survey of over 400,000 locations, IP has identified 4 mercury-containing gas regulators that are currently in customers' premises. These regulators have not been removed due to the request in your October 23, 2000, letter to delay removals until such time as a Task Force-reviewed, comprehensive plan is in place to address the removal activity. We are hopeful that

the enclosed Mercury Control Program will satisfy that requirement, and I look forward to any additional questions or comments your may have.

Sincerely,

A handwritten signature in black ink, reading "Randy W. Clemens". The signature is written in a cursive, flowing style with a large initial 'R'.

Randy W. Clemens  
Senior Attorney

## **ILLINOIS POWER COMPANY MERCURY CONTROL PROGRAM**

(1/26/01 Revision)

Note: This control program was developed under the guidance of various qualified professionals (including an independent Certified Industrial Hygienist). The program is structured in such a way that involved parties will have an understanding of all elements of Illinois Power's mercury handling practices and how Illinois Power's plan and protocol is structured to meet all applicable state and federal laws, rules and regulations (including those promulgated by OSHA and IEPA).

### **What is Mercury?**

Elemental mercury is a heavy silvery liquid. It evaporates very slowly. Evaporation increases with increased temperature. Mercury has many important uses, including: thermometers, batteries, fluorescent bulbs, some medicines, and dental fillings.

### **Understand Illinois Power's Past Use of Mercury-Containing Pressure Regulators on Customer Premises**

In its early years in the gas business, Illinois Power ("IP") used pressure regulators with a mercury seal to safely regulate the pressure of gas delivered to customers. These regulators were commonly used in the 1930s, 40s and 50s. They became obsolete as newer technology became available, and by 1962, Illinois Power no longer installed mercury-seal regulators. Thus, customer homes or businesses constructed after 1962 and served by Illinois Power never had this kind of regulator.

Illinois Power removed these mercury-containing regulators as part of a systematic program to upgrade its gas system, starting in 1966. Trained and qualified Illinois Power employees removed the meters from customer properties. The great majority of these regulators were removed by the mid-1970s. The company's records indicate that virtually all of these regulators were retired from active service by 1983.

Given recent attention to this issue, IP in early September 2000 provided training for meter readers, meter changers, and other field personnel to identify these types of regulators in case they should find them in the normal course of their duties. From mid-September through the first week of November January, 2000, 1 Illinois Power field personnel have checked 348,947 of IP's ~~417,168~~ 412,115 customer locations. A total of ~~six~~ eight mercury-containing regulators have been found to date.

## **Recognize Potential Mercury Concerns**

Breathing vapors is the primary way mercury may enter the body. Mercury has no odor, so instruments are needed to verify safe levels in the air. The OSHA Permissible Exposure Limit (PEL) for workplace exposures is 100 micrograms per cubic meter (100 ug/m<sup>3</sup>). This air level should not be exceeded. There is a recommended workplace exposure level called the Threshold Limit Value (TLV). The TLV is 25 ug/m<sup>3</sup> averaged over an 8-hour work day.

Eating (ingestion) of mercury is not a significant and/or typical source of exposure. In those extremely rare circumstances, ingested mercury passes through the body with minimal absorption. Small amounts of mercury can be absorbed through the skin with prolonged contact.

Inhalation of high levels of mercury in the air (i.e., levels well in excess of the OSHA workplace standards) for a prolonged period of time may produce the following signs and symptoms: tremors, emotional instability and irritability, nerve damage, gingivitis, kidney damage, vision changes and hearing loss. Again, these symptoms may occur in individuals that have absorbed large amounts of mercury, which are generally indicated by high levels of mercury in urine or blood.

## **Follow Exposure Control Practices and Wear Personal Protective Equipment**

During regulator handling activities, mercury vapor exposure is typically well below the OSHA PEL. Exposure can easily be minimized by adhering to some simple measures. The following guidelines should be adhered to when handling mercury-containing equipment if the potential for air exposure or skin and eye contact exists:

- Reduce exposure to mercury by ventilation. Open windows or place exhaust fans going outside to dilute mercury concentrations in the air.
- Wear plastic or rubber gloves to keep hands clean.
- Wear a plastic or rubber apron to keep work clothes clean if there is a potential for splashing.
- Wear booties to keep shoes clean if there is a potential for stepping on mercury. (Shoes can easily pick up mercury and cannot be cleaned).
- Wear safety glasses with side shields.

Respirators are not required for routine work tasks.

### **Conduct Employee Exposure Monitoring**

Where necessary and appropriate to assure compliance with OSHA requirements, employee air exposure monitoring will be performed during inspection and removal activities.

A Jerome mercury meter, or sampling using OSHA method ID 140 or equivalent, will be used where necessary and appropriate.

Corrective actions will be taken to minimize exposure if airborne levels exceed the TLV of 25 ug/m<sup>3</sup>.

Medical monitoring will be made available to employees who have been involved in mercury handling related tasks. (Note: Most mercury leaves the body after 100 days after the last exposure.)

### **Properly Remove Mercury-Containing Regulators**

Only trained and qualified gas service personnel will remove mercury-containing regulators. Regulators can be safely removed without spilling mercury by following these steps:

- Put on personal protective equipment.
- Place a plastic garbage collection bag under the regulator to catch any potential spill.
- Do not remove the mercury from the regulator.
- Relieve pressure on regulator.
- Loosen connections as needed to remove regulator. Cap each opening immediately.
- Cap all regulator openings before removing regulator. Keep the unit upright at all times. If the unit must be tilted, do not do so until all openings are capped.
- Place the regulator in the plastic bag, seal and double bag. Put waste contaminated or potentially-contaminated PPE into the outer bag. Put mercury hazard communication label on bag exterior.
- Transport the regulator back to the service unit for pick-up by an appropriate recycling/disposal contractor (Heritage Environmental Services or equivalent).
- If spill occurs, follow mercury spill procedure outlined below.

### **Establish Quality Assurance/Quality Control for Regulator Removal**

A supervisor will be present when mercury-containing regulators are removed. The supervisor will review the procedure with the employees before the work begins and perform a thorough visual inspection of the regulator location before and after removal to verify no liquid mercury is left in the premises.

IP's Environmental Services will perform a final check with a Jerome Mercury Meter to verify that no detectable mercury is present (detection limit is 3 ug/m<sup>3</sup>).

### **Conduct Proper Spill Response**

In the case of spill or if visible mercury is detected outside the unit, the following procedure will be implemented:

- Apply commercial mercury suppressant material (for example, HgX mercury suppressant or equivalent) on the spill. Follow label directions. (Some suppressants require a small amount of water to activate). Safety glasses should be worn when applying.
- Isolate the immediate spill area to prevent tracking.
- Notify the resident and refer resident to applicable Gas Operation Supervisor for follow-up actions.
- Follow the EP320 spill notification and cleanup procedure. A qualified third party response team (such as Heritage Environmental or equivalent) will be called in to perform the final cleanup.
- Residents typically will not need to leave the home because the primary source of mercury vapor will be controlled by the suppressants.
- Conduct initial monitoring to determine baseline exposures. If exposures exceed 10 ug/m<sup>3</sup> in occupied living areas, recommend to residents that they relocate. (Residents cannot be forced to relocate). Contact applicable Gas Operations Supervisor to arrange for living arrangements. IP will reimburse for reasonable living expenses.
- Mercury medical monitoring will be made available to residents of homes where visible mercury has been detected. IP will reimburse for reasonable medical monitoring expenses.
- Place PPE and waste into plastic bag, seal & double bag. Complete all sections of mercury hazard communication label on bag exterior. Store waste in vicinity of mercury contamination for disposal by cleanup crew.

### **Properly Dispose and Recycle Mercury and Mercury-Containing Regulators**

IP contracts with recycling companies (such as Heritage Environmental Services or equivalent) to handle mercury-related material (including the regulators). Regulators are sent to recycling operations to separate the mercury from the regulator. IP's Environmental Services will notify the recycling company when a regulator is ready for pickup.

### **Visually Inspect Premises for Mercury as Required**

The surface of mercury droplets tend to oxidize over time, thereby significantly reducing vapor concentrations. In addition, cold basement floors will tend to reduce vapor concentration. All this being the case, and due to the length of time that has passed since mercury-containing regulators have been removed, IP will

employ visual inspections (where appropriate) in premises in which mercury-containing regulators were previously located. Trained and qualified personnel will perform visual inspections using the following protocol:

- Determine if home potentially has mercury regulator based on age of premises, service location and piping configurations.
- At bottom of basement stairs, put on a clean pair of booties. Remove at bottom of stairs when leaving.
- Identify location of previous gas service.
- Use a bright flashlight to check floor area and cracks for very small silvery liquid droplets. The surface of the droplets may be slightly blackish (oxidized).
- Look under appliances, inside cabinets, and under furniture by the location of the former regulator. Move if necessary. (These can be common potential spill locations).
- Document inspection using mercury inspection form. Provide a copy to homeowner if requested.
- If visible mercury is detected, apply commercial mercury suppressant material in spill cleanup kit and follow spill response procedures.

### **Establish Visual Inspection Quality Assurance/Quality Control Actions**

Individual inspections will be conducted under direct supervision or other appropriate QA/QC standards.

### **Conduct Proper Cleanup**

IP will contract with qualified firms that have experience handling mercury (such as Heritage Environmental Services or equivalent). IP will rely on the contractor for the means and methods. The following cleanup guidelines are suggested:

- Obtain authorization from customer for cleanup activities.
- Isolate the smallest area needed to facilitate cleanup.
- Install local exhaust ventilation, directed from the source to the outside.
- Make every effort to save personal items. Items should be cleaned, heated, or other methods used to remove mercury vapor. Do not discard items without homeowner's permission. Place items in plastic bag and check air inside bag with Jerome meter or equivalent. A concentration of 10 ug/m<sup>3</sup> or less is considered acceptable for keeping the items.
- Cleanup initial spill area first using scoops or other means to collect the suppressed mercury.
- Minimize use of mercury vacuums. If used, direct exhaust to outside.
- Document conditions with photographs. Photograph and log any items discarded. Have resident review log and sign upon completion. Provide

resident with a copy of log. Approved copy of log should be submitted to the IP Legal Department for appropriate reimbursement actions.

- Use a mercury monitor to locate additional mercury. Suppress and cleanup as needed.
- Heat spill area using electric heaters to approximately 85 F to drive off mercury vapors. Be sure spill area is isolated and mechanically exhausted to the outside.
- Recheck heated spill area and living areas of home with Lumex mercury meter or other device capable of detecting less than 1.0 ~~0.3~~ ug/m<sup>3</sup>. Reclean and continue heating as necessary.
- Arrange for final inspection and clearance testing when spill area and living areas of the home do not exceed ~~0.3~~1.0 ug/m<sup>3</sup>.

Spill cleanup QA/QC will be performed by qualified third party environmental health and safety personnel. Final inspection and clearance testing will include QA/QC checks on all cleanups. All cleanup reports will be reviewed by an independent certified industrial hygienist.

### **Perform Final Inspection and Clearance Testing After Cleanup**

Final inspection and final air clearance testing cleanup will be performed by an independent industrial hygiene firm (such as Aires Consulting Group or equivalent). Final inspection will consist of visually verifying effective cleanup has been performed. Final air clearance testing is the last step to verify home is clean. The contractor conducting final air clearance testing will prescribe the means and methods to be employed, based on the following guidelines.

Clearance testing will follow EPA method "Analysis of Mercury in Air with a Modified NIOSH 6009 Method". A calibrated pump is used to draw 0.5 liters per minute of air through a tube containing hopcalite. Hopcalite reacts with the mercury. The tube is sent to a laboratory (such as Kemper NATLSCO Lab in Long Grove, IL) for analysis. An alternate method is a direct reading instrument. If acceptable to IDPH and IEPA, a Lumex Mercury meter may be used instead.

Clearance testing will involve the following steps:

- Close and heat home to about 75~~80~~°F for about 14 hours prior to testing. Maintain heat in home during sampling.
- Collect samples for six to eight hours, sufficient to achieve a detection limit one half of the EPA recommended limit of ~~0.3~~1.0 ug/m<sup>3</sup>.
- Collect air samples in the breathing zone in the following areas:
  - Spill location
  - Basement bedrooms
  - First floor, living area
  - Each child's bedroom



- ~~— One outdoor location~~
- Prepare documentation including:
  - Map showing sampling locations
  - Chain of custody
  - Sample data forms including calibration records
  - Laboratory reports

### **Establish QA/QC for Final Clearance Testing**

All final inspection and final clearance report will be reviewed by a Certified Industrial Hygienist independent of the firm doing the sampling.

The final inspection/final clearance report will be submitted to the IDPH for approval. The IDPH will issue a letter to the homeowner verifying safe occupancy.

### **Evaluate IP Controlled Property**

Visual inspections and monitoring are presently being conducted at IP locations where mercury was handled to verify compliance with OSHA regulations. An independent industrial hygiene firm will oversee these evaluations. Any necessary cleanup will be conducted by an outside firm, with the goal of achieving OSHA compliance.